



ATTACHMENT B

REMARKS

By the present amendment, Applicants have now amended the title in the manner suggested by the Examiner so as to overcome the objection to the title. For reasons as set forth in detail below, Applicants submit that the present invention is not disclosed or suggested in the prior art references cited by the Examiner which actually teach away from the present invention, and reconsideration and allowance of the present claims is thus respectfully requested.

In the Official Action, the Examiner objected to the Specification by suggesting a more descriptive title, and Applicants have now overcome this rejection by adopting the Examiner's suggestions.

In the Official Action, Claims 15 and 18-20 were rejected under 35 U.S.C. §103(a) on the basis of U.S. Pat. No. 5,281,302 issued to Gabric et al. in view of Yanagida U.S. Patent 5,445,712 or JP 04-346,428 issued to Sony, although the Examiner recognized that Gabric did not disclose the cleaning gas of the present invention, namely $\text{CF}_3\text{CF}=\text{CF}_2$ (C_3F_6). This rejection is respectfully traversed for the reasons as stated below.

As indicated above, the present claims are not disclosed or suggested in any of the references cited by the Examiner either singly or in combination. In the first place, as conceded by the Examiner, the Gabric et al reference does not disclose or suggest the cleaning gas of the invention, i.e., $\text{CF}_3\text{CF}=\text{CF}_2$. Moreover, the other references cited by the Examiner also do not disclose or suggest the present invention, and in fact teach away from the claims.

With regard to the Yanagida reference, this reference only discloses hexafluoropropene (C₃F₆) as an etching gas, and **not** a chamber cleaning gas, and moreover, the reference **teaches away** from the use of the claimed compound as a cleaning gas. In particular, Yanagida discloses the following on column 2, lines 50-59 (emphasis added):

"The above-mentioned unsaturated chain fluorocarbon compound is exemplified by octafluorobutene (C₄F₈) and hexafluoropropene (C₃F₆). Since, theoretically, these gases form two or more units of CF_x⁺ from one molecule on dissociation due to electric discharges, SiO₂ may be etched at a high etchrate. Also, since the unsaturated bond exists in the molecule, it is easy to form highly active radicals by dissociation, whereby polymerization of the carbonaceous polymer may be promoted."

Similarly, with regard to the Sony reference, this reference also **teaches away** from the use of the claimed compound as a cleaning gas. In particular, the Sony reference has the following disclosures which teach away from the present invention and show that they would teach one skilled in the art that it would be **disadvantageous** to use the present claimed compound as a chamber cleaning gas:

"In addition, chain unsaturated fluorocarbon gases are likely to generate high energy radical by dissociation of intra-molecular unsaturated bond. Furthermore, deposition of the carbonaceous polymer is promoted by controlling the temperature of the substrate being processed to be at 50°C. Thus, the selectivity to the resist and the selectivity to the silicon underlying layer can be improved. Octafluorobutene (C₄F₈) and hexafluoropropene (C₃F₆) and so on are used as said chain unsaturated fluorocarbon." (See Page 3, column 3, lines 17-19.)

"In addition, the cyclic unsaturated fluorocarbon compounds, similar to above-mentioned chain unsaturated fluorocarbon compounds, promote polymerization of carbonaceous polymer." (See Page 5, column 7, lines 12-14.)

As reflected in the passages shown above, contrary to the present invention, both the Yanagida and Sony references disclose that chain unsaturated fluorocarbons including C_3F_6 promote deposition of carbonaceous polymer, which is obviously **disadvantageous** for a chamber cleaning gas in accordance with the present claims. Accordingly, the Yanagida and Sony references thus **teach away** from the present claims, and thus cannot be combined with the Gabric reference, which does not disclose or suggest the claimed cleaning gas, in order to make the present invention obvious.

Applicants thus submit that the present claims are clearly not disclosed or suggested in the prior art references cited by the Examiner which in fact teach away from the present invention, and that the rejection on the basis of these references is respectfully traversed and should be withdrawn.

In light of the present amendments and arguments as set forth above, Applicants submit that the present invention is patentable over the cited references and is in conditions for immediate allowance. Such action is earnestly solicited.

END OF REMARKS